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| APPLICATION NO.                    | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/565,139                         | 01/19/2006  | Sachin Satish Mody   | PU030222            | 9016             |
| 24498                              | 7590        | 08/15/2011           | EXAMINER            |                  |
| Robert D. Shedd, Patent Operations |             |                      | HUYNH, NAM TRUNG    |                  |
| THOMSON Licensing LLC              |             |                      |                     |                  |
| P.O. Box 5312                      |             |                      | ART UNIT            | PAPER NUMBER     |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|                              |                        |                     |
|------------------------------|------------------------|---------------------|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|                              | 10/565,139             | MODY ET AL.         |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | NAM HUYNH              | 2617                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 01 July 2010.  
 2a) This action is **FINAL**.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 22-38 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 22-38 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

| <b>Attachment(s)</b>   |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application                         |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ . | 6) <input type="checkbox"/> Other: _____ .  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/1/10 has been entered.

### ***Response to Amendment***

This office action is in response to amendment filed on 7/1/10. Claims 22, 33, 37, and 38 have been amended.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 22-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu (US 2003/0220994) in view of Pruss et al. (US 2004/0193513), and further in view of Sorber et al. (US 2003/0157925) (hereinafter Sorber).

Regarding claim 1, Zhu teaches a method for processing user requests for credit based wireless local area network (WLAN) access, said method comprising:

an access point of said WLAN receiving a request from a user device for user access according to an authentication protocol (user establishes connection with LAN and provides information about the user) (paragraph 11);

said access point forwarding user credentials in response to said request from said user request device (LAN sends information about the user for authentication to an account management server) (paragraph 12);

said access point receiving an access response authenticating said credit-based network access (user is authenticated by account management server) (paragraph 15), said access response containing a parameter having a credit value indicative of a length of available continued network access based on remaining user credit (paragraphs 17,

19; if user's account balance is monitored during a session, then the account balance would inherently need to be provided);

    said access point notifying said user device when said credit parameter reaches a threshold value (if the balance drops below a predetermined threshold the user is prompted to add more time to the account) (paragraph 19).

However, Zhu does not explicitly teach:

    a said user device transmitting a re-authentication request in response to said credit parameter value reaching a threshold value to cause a re-authentication to occur; and said access point receiving and forwarding user credentials before granting further access to the network by said user device. Pruss discloses a method for authorizing a prepaid network service (abstract). Pruss teaches:

    a user device transmitting a re-authentication request (user selects Refill Credit Balance button on Dashboard) in response to said credit parameter value reaching a threshold value (credit has exhausted or gone below a threshold) to cause a re-authentication to occur (connection is re-authorized after user replenishes credit) (paragraphs 188, 191, 192); and

    receiving and forwarding data from a network to an account management server before granting further access to the network by said user (paragraphs 191, 192; when a user desires to refill credit an exchange of data is conducted between the user and the Billing Server via the SSG before re-authorization occurs).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Hsu to allow the user to be re-

authenticated when the balance drops below a predetermined value containing data before further network access is granted, as taught by Pruss, in order to increase security by preventing unwanted or fraudulent replenishing of the account.

The combination of Zhu and Pruss does not explicitly teach that user credentials are received and forwarded before granting further access to the network during the re-authentication request. Sorber discloses a communication unit and method for facilitating prepaid communication services (title). Sorber teaches that a user may provide a credit card or bank account number (user credentials) to be used for replenishment of a prepaid account (paragraph 18). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Zhu and Pruss to allow a user to provide and send user credentials, as taught by Sorber, to the Billing Server when refilling credit in order to add convenience to a user by allowing credit to be replenished without having to purchase a new prepaid card or calling an operator.

Regarding claims 23, 27, and 36, Pruss teaches parameter comprises a session-timeout parameter associated with IEEE 802.1X authentication protocol (paragraph 125; session timer).

Regarding claim 24, Pruss teaches said access point (SSG) receiving a re-authentication response for re-establishing said network access based on said credit parameter value (paragraph 142; SSG receives quota information from the billing server).

Regarding claim 25, Pruss teaches the re-authentication response is based on the results of a comparison of said credit parameter value with said threshold value (paragraph 142; threshold value).

Regarding claims 26, 29, Pruss teaches said credit parameter value contained in said access response is based on one of: a) time usage; and b) traffic volume usage (paragraph 105).

Regarding claim 28, Pruss teaches said authentication server is a RADIUS authentication server, and further wherein said authentication server contains memory for storing said indicator of remaining user credit (paragraph 55; AAA server).

Regarding claim 30, Pruss teaches in response to said re-authentication process, said authentication server retrieves said indicator of remaining user credit and denies re-authentication of said client device when said indicator of remaining user credit drops below a threshold value (paragraph 142, connection is disconnected).

Regarding claim 31, Pruss teaches the indicator of remaining user credit comprises a credit timer indicative of the remaining credit balance, said credit timer being decremented according to a temporal access usage (paragraph 152).

Regarding claim 32, Pruss teaches the authentication server periodically updates the credit timer in units of: a) time and b) traffic volume (paragraphs 68, 69).

Regarding claim 33, the combination of Zhu, Pruss and Sorber teaches the limitations of the claim. Zhu teaches prepaid access to a wireless LAN. The combination of Pruss and Sorber teaches a method for processing a user request for credit based wireless local area network (WLAN) access, said method comprising:

a network receiving user credentials (attributes) associated with said user request for credit based network access (Pruss; paragraphs 84, 87, 89; the SSG receives the Access Request message which contains attributes such as username and station Id which are "user credentials");

calculating, in response to said user credentials, a session-timeout parameter value based on remaining user credit and network charges, said session-timeout parameter value indicative of a length of available continued network access (Pruss paragraphs 125, 126; SSG calculates quota value or the time or volume a user is permitted to use service);

embedding said session-timeout parameter value (quota) in an access response message (Access-Accept message) authenticating said credit based network access (Pruss paragraphs 126, 128);

activating a credit timer having a value indicative of remaining user credit balance, said credit timer decremented according to a temporal access usage (Pruss paragraph 125; SSG server monitors usage of services);

forwarding said access response message to said access point (SSG) (Pruss paragraph 123; Access-Accept message is forwarded by the AAA server to the SSG);

receiving said user credentials from a user in response to a re-authentication request for re- authenticating said credit based network access (Sorber paragraph 18);

comparing said credit timer value with a predetermined threshold value; and determining whether said network access is de-authenticated (connection is terminated)

from further network access based on said comparison (Pruss paragraphs 133, 134; if unsuccessful re-authorization is indicated the connection is terminated).

Regarding claim 34, Pruss teaches transmitting a re-authentication response message when said credit timer value is above said predetermined threshold value (paragraph 142).

Regarding claim 35, Pruss teaches transmitting a re-authentication response message when said credit timer value is below said predetermined threshold value (paragraph 142).

Regarding claim 37, the combination of Zhu, Pruss and Sorber teaches the limitations of the claim. Zhu teaches prepaid access to a wireless LAN. The combination of Pruss and Sorber teaches a system for processing user requests for credit based network access, comprising an access point associated with a network (Pruss paragraph 53; SSG/GGSN), said access point providing said credit based network access based on authentication according to an authentication protocol (Pruss paragraph 55; AAA Server performs authentication for SSG/GGSN), and wherein said access point (SSG) is responsive to an access response message (Access Accept message) containing a parameter having a value indicative of remaining user credit (quota) (Pruss paragraph 123, 125; quota is received by the SSG from the AAA server), so as to cause said access point to initiate a re-authentication process upon expiration of a timer corresponding to said parameter value (Pruss paragraphs 188, 191, 192; re-authentication is performed when credit has exhausted) by requiring a user associated with a client device to re-provide user credentials (Sorber paragraph 18) to permit re-

authentication before one of granting and denying further credit based network access (Pruss paragraph 192; in the combination of Pruss and Sorber the user is re-authenticated after a user provides credentials for refilling credit).

Regarding claim 38, the combination of Zhu, Pruss and Sorber teaches the limitations of the claim. Zhu teaches prepaid access to a wireless LAN. The combination of Pruss and Sorber teaches a system for processing user requests for credit based network access, comprising an authentication server (Pruss paragraph 55; AAA Server), said authentication server being responsive to an access request message (paragraph 84; AAA server receives Access-Request messages) containing user credentials (Sorber paragraph 18) and wherein said authentication server transmits to an access point an access response message (Pruss paragraph 123; SSG receives Access-Accept message from AAA server) containing a parameter (quota) having a value indicative of a length available continued network access based on an indicator of remaining user credit (Pruss paragraph 126) so as to cause initiation of a re-authentication process upon expiration of a timer corresponding to said parameter value (Pruss paragraphs 188, 189; system initiates refilling when credit has exhausted) by requiring a user with a client device to re-provide user credentials (Sorber paragraph 18) to permit re-authentication before one of granting and denying further credit based network access (Pruss paragraphs 191, 192; the user is not reauthorized for services until replenishing credit).

***Response to Arguments***

5. Applicant's arguments with respect to claims 22-38 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAM HUYNH whose telephone number is (571)272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nam Huynh/  
Examiner, Art Unit 2617

/George Eng/  
Supervisory Patent Examiner, Art Unit 2617